TO ALL TO WHOM THESE; PRESENTS SHALL COME;

Custom Ag Service, Inc.

TUltereas, there has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, therefore, this certificate of plant variety protection is to grant UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLI-CANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EX-OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, RTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT HEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. ED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS RTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'Cascot BR-1'

In Testimony Willierest, I have hexeunts set my hand and caused the seal of the Wixxi Variety Protection Office to be affixed at the City of Washington

this 30th

day of July the year of our Lord one thousand nine

indred and eighty-one.

FORM GR-470 (1-78)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties:

 (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

Exhibit A

A. Origin and Breeding History of the Variety

Cascot BR-1 originated with the breeding line TX-Bonham developed by L. S. Bird of the Texas Agricultural Experiment Station. TX-Bonham has been used in breeding programs but is not a released variety. A pure line selection program in conjunction with the Texas A&M Multi-Adversity Resistance (TAM-MAR) genetic improvement system was used to develope Cascot BR-1. The sequence of selection and developement of the variety is as follows:

1974 - An individual plant differing in plant color, fruiting habit and boll shape was selected from a population of TX-Bonham growing in a test plot at Veribest, Texas. Seed and seedlings from the selected individual plant were subjected to Multi-Adversity Resistance selection proceedures in laboratory and greenhouse tests.

1975 - Sixty-three progeny rows were in test plots at Loraine, Texas from individual greenhouse grown plants. One progeny row, designated CAS-BR-1-56, was selected and harvested.

1976 - CAS-BR-1-56 was increased on the Custom Ag Service Research farm at Loraine, Texas.

1977 - The strain was grown in five (5) advanced strains tests in Texas and Oklahoma. The strain was designated Cascot BR-1 and five tons of breeders seed was produced for testing and eventual production of the variety.

1978 - The strain was grown in seventeen (17) advanced strains tests and demonstrations in Texas, Oklahoma, and Mississippi. These trials indicated that the strain possessed earliness, good harvesting qualities, and good yield potential. Based on these data seed was

harvested from increase fields at Loraine, Texas and Veribest, Texas.

1979 - Cascot BR-1 was grown in forty-nine (49) advanced strains
tests, State yield trials, and county demonstrations in Texas, Oklahoma, and Arkansas. Data confirmed Cascot BR-1 possesses earliness,
good harvest characteristics, and high yield potential.

Exhibit A

Stability of Cascot BR-1

Cascot BR-I has performed consistantly for several years with regards to productivity maturity, fruiting characteristics, and morphological traits. There is no known genetically controlled character that has shown any significant variation over time. Reselections from Cascot BR-I have not differed significantly from Cascot BR-I which indicates lack of genetic variation in Cascot BR-I.

Exhibit B

Novelty Statement for Cascot BR-1

Cascot BR-1 is a high yielding, early maturing variety which maintained approximately 5.0% yellow pollen and 95% cream pollen. Cascot BR-1 is immune to all 18 known races of the bacterial blight pathogen, <u>Xanthomonas malvacearum</u> (E. F. Sm.). There are eight other cotton varieties which are also immune to all 18 races of <u>X. malvacearum</u>. These varieties are: Cascot B-2, Cascot L-7, Tamcot CAMD-E, Tamcot SP37H, Tamcot SP37, Tamcot SP21S, Tamcot SP21, Tamcot SP23. Thus, immunity to bacterial blight distinguishes the Cascot and Tamcot varieties from all other cotton varieties.

The Cascot varieties (BR-1, B-2, and L-7) differ from the six Tamcot varieties by having significantly larger bolls (Table 1.).

Cascot BR-1 can be differentiated from Cascot L-7 because Cascot BR-1 has a slightly larger micronaire and a significantly shorter UHM fiber length than Cascot L-7 (Table 1).

Cascot BR-1 most closely resembles Cascot B-2 with regards to earliness and plant morphology. Cascot BR-1 can be differentiated from Cascot B-2 in the field by plant color, Cascot BR-1 is dark green and Cascot B-2 is light green. Cascot BR-1 also differs from Cascot B-2 by having significantly higher fiber strength (Table 1).

Table 1. Fiber and fruit characteristics of nine cotton varieties grown in ten Texas and Oklahoma environments, 1977 - 1980

	Boll Size	Fiber Length	Fiber Strength	Micronaire
Cultivar	grams	UHM	gms/tex	
Cascot B-2	5.40aa	0.99 cd	20.55 b	4.20a
Cascot BR-1	5.30ab	0.98 d	21.63a	4.19a
Cascot L-7	5.06 b	1.07a	21.43ab	3.96ab
Tamcot SP21S	4.71 c	I.00 cd	20.81ab	3.47 c
Tamcot SP37	4.66 c	1.02 b	20.60ab	3.41 c
Tamcot SP23	4.65 c	0.99 cd	21.03ab	3.38 c
Tamcot SP37H	4.64 c	I.OI bc	21.40ab	3.69 bc
Tamcot CAMDE	4.63 c	0.98 d	20.96ab	3.69 bc
Tamcot SP21	4.60 c	1.01 bc	21.40ab	<u>3.45</u> c

a. Averages not followed by the same letter are significantly different according to Duncan's Multiple Range Test at the 5% level.

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE LIVESTOCK, POULTRY, GRAIN & SEED DIVISION BELTSVILLE, MARYLAND 20705

EXHIBIT C (Couton)

7

OBJECTIVE DESCRIPTION OF VARIETY					
INSTRUCTIONS: See Reverse. COTTON (GOSSYPIUM SPP.)					
Custom Ag Service, Inc.	FOR OFFICIAL USE ONLY				
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	80 000 32-				
$P_{\bullet} = 0$, $Box = 97$	VARIETY NAME OR TEMPORARY DESIGNATION				
Loraine, Texas 79532	CASCOT BR-1				
Place the appropriate number that describes the varietal character of this variety in the	boxes below.				
Place a zero in first box (e.g. 0 8 9 or 0 9) when number is either 99 or less or					
1. SPECIES:	The state of the s				
1 = GOSSYPIUM HIRSUTUM 2 = GOSSYPIUM BARBADENSE	The state of the s				
2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adopted, 2 = Adapted):	Marine and American Company of the				
O EASTERN 2 DELTA 2 CENTRAL 2 HIG	SH PLAINS				
0 WESTERN LOW HOT VALLEYS 0 SAN JOAQUIN 2 OT	HER(Specify) $T_{m{exas}}$ Rolling Plains				
3. MATURITY (50% Open Boll):					
1 0 NO. OF DAYS EARLIER THAN 7 1 = COKER 310 2 =	DELTAPINE 16 3 = STONEVILLE 213				
0 0 NO. OF DAYS LATER THAN 8 7 = LANKART 57 8 =	5 = ACALA 1517-70 6 = ACALA SJ-1 OTHER (Specify) $Earlier$ than all 7				
U U NO. OF DAYS LATER THAN 8 7 = LANKART 57 8 =	OTHER (Specify) Earl 2 007 Unate (2.12.7)				
	1 = FOLIAGE SPARSE 2 = DENSE 3 = OTHER (Specify) <u>Intermediate</u>				
5. PLANT HEIGHT:					
7 0 CM. SHORTER THAN	DELTAPINE 16 3 = STONEVILLE 213				
	5 = ACALA 1517-70 6 = ACALA SJ-1 OTHER (Specify)				
6. MAIN STEM:					
2 1 = LAX 2 = ASCENDING 3 = ERECT 22 FRUITING BRANCH 05	NO. OF NODES TO FIRST FRUITING BRANC (from cotyledonary node)				
7. LEAF: 8. LEAF PUBESCENSE: 1 = GLABRO	US (HAIRS AS SPARSE AS D2 SMOOTH)				
2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF) 4 = HEAVY PUBESCENCE (H ₁ OR H ₂) 5 = OTHER	3 = PUBESCENT (STONEVILLE 213) (Specify)				
9. LEAF COLOR:	4 = RED				
3 = VIRESCENT YELLOW 2 = LIGHT GREEN 3 = DARK GREEN (Acala-44:	2) 1.1 4.≡ RED Harris Str. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
10. LEAF TYPE:					
1 = NORMAL 2 = OKRA 3 = SUPER OKRA 4 = OTHER (Specify)					
11. FLOWER:	A SA				
2 1 = NECTARILESS 2 = NECTARIED					
Petals:] = CREAM 2 = YELLOW Pollen: 1 = CREAM 2 = YE	die een werde de die jaar die een die				
12. FRUITING BRANCH TYPE:	 And the property of the property				
	TERMINATE				
13. GOSSYPOL CONDITION:	1 = NORMAL BUD GOSSYPOL				
1 = GLANDLESS 2 = REDUCE D GLANDS 3 = NORMAL GLANDS 4 = OTHER (Specify)	2 = HIGH BUD GOSSYPOL				
14. SEEDS:					
7 7 5 ± 7 5 SEED INDEX	SJ-1) 4 = OTHER (Specify)				

(Formerly Form GR-470-8, which may be used)

FORM LPGS-470-8 (5-78)

Colors and Escaped A Properties Associated as the colors of the colors o						
15. BOLUS:						
2 Locules: 2 = 4.5 3 0 NO. SEEDS PER BOLL 3 9 3 LINT PERCENT 4 0 MM. DIAMETER						
1 = NONE Pitted: 2 = FINELY S = COURSELY 1 = NONE Decrease						
2 Type: 2 = STORM RESISTANT (LANKART 57) 3 = OPEN (DELTAPINE 16) 1 = LENGTH < WIDTH 3 = LENGTH = WIDTH 3 = LENGTH > WIDTH						
16. BRACTEOLES: The state of th						
Breadth: 1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH						
2 Teeth: 1 = 5.7 3 = 8-10 4 Teeth: 1 = 3.4 2 = 5.7 3 = 8-10 4 = OTHER (Specify) 70-12						
17. YIELD: Compared to-						
0 0 0 PERCENT LESS THAN None.						
1 3 6 PERCENT MORE THAN						
18. FIBER LENGTH (Complete one or more of the following and give the means):						
0 4 6 SPAN LENGTH 50% 7 0 SPAN LENGTH 2.5% 0 9 8 U.H.M. LENGTH						
MEAN LENGTH 3 3 STAPLE LENGTH 32nd INCHES						
7 6 UNIFORMITY RATIO (MEAN/U.H.M.) 4 6 UNIFORMITY INDEX (50% SPAN/2.5% SPAN)						
19. FIBER STRENGTH AND ELONGATION:						
0 8 6 1,000 P.S.I STILOMETER TO						
4 1 9 MICRONAIRE READING YARN STRENGTH (Give test method) 2 1 6 STILOMETER T						
20. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)						
7 VERTICILLIUM 2 FUSARIUM WILT 2 ROOT KNOT NEMATODE 2 BACTERIAL BLIGHT (Race I)						
2 BACTERIAL O BLIGHT PHYMATOTRICHUM THIZOCTONIA						
O ANTHRACNOSE O. RUST						
21. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)						
T BOLL WEEVIL T APHID T T FLEAHOPPER O LEAFWORM						
O FALL ARMYWORM I GRASSHOPPER I LYGUS O PINK BOLLWORM						
O STINKBUG THRIP O CUTWORM T SPIDERMITE						
OTHER (Specify)						

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.

(2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture,

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.

Exhibit D

Additional Description of the Variety

Cascot BR-1 has no unusual seed or seedling traits.

Cascot BR-1 is a normal leaf, normal bract, hirsute variety with 95% cream pollen and 5% yellow pollen. Cascot BR-1 resembles Cascot B-2 in earliness, fruiting habit, boll size, micronaire, fiber length, uniformity ratio, gin turn-out, and lint percent (Table 2). Cascot BR-1 is darker green in color, has stronger fiber and consistantly out yields Cascot B-2.

Table 2. Additional Comparisons of Cascot BR-1 and Cascot B-2, 1977 - 1980.

	,	Gin	${\it Uniformity}$
Variety Yield	Lint%	$\mathit{Turnout}$	Ratio
No. of Comparisons 30	<i>15</i>	26	9
Cascot BR-1 543.76*	<i>39.3</i>	<i>25</i> , 6	76
Cascot B-2 511.89	<i>38.7</i>	24.9	74

^{*} Significantly different according to Student's t at the 5% level